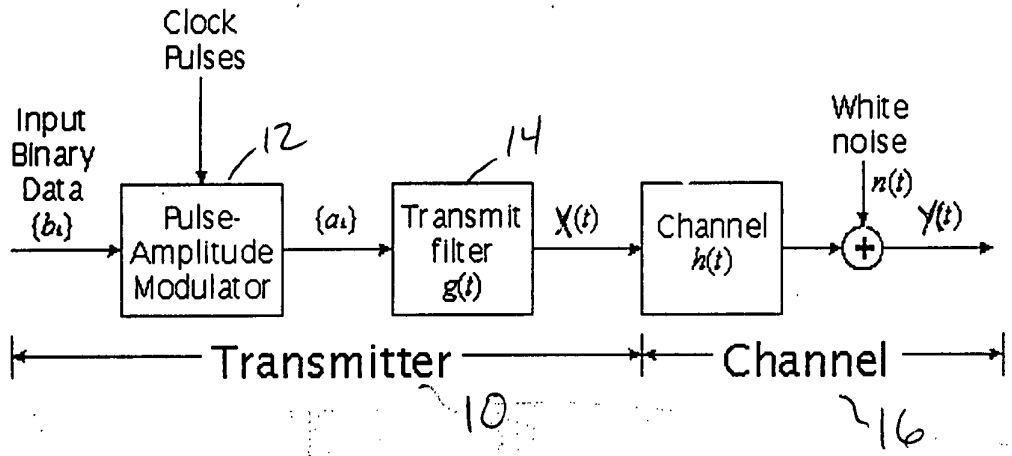
008260 "in92960



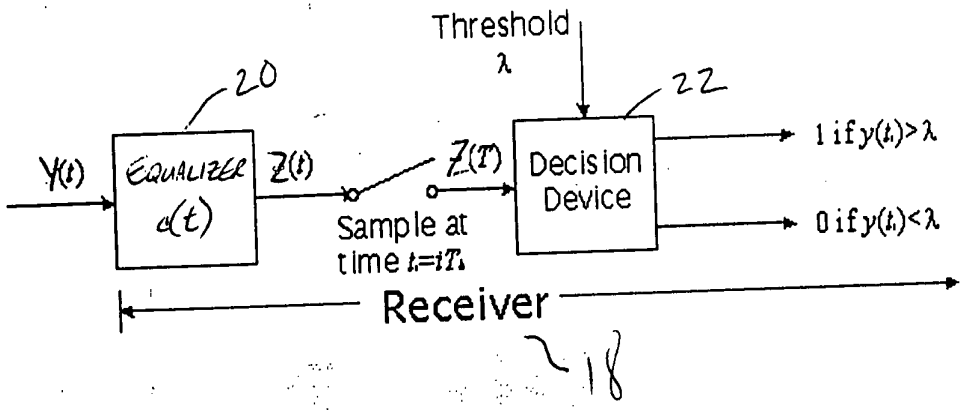




FIG. 1

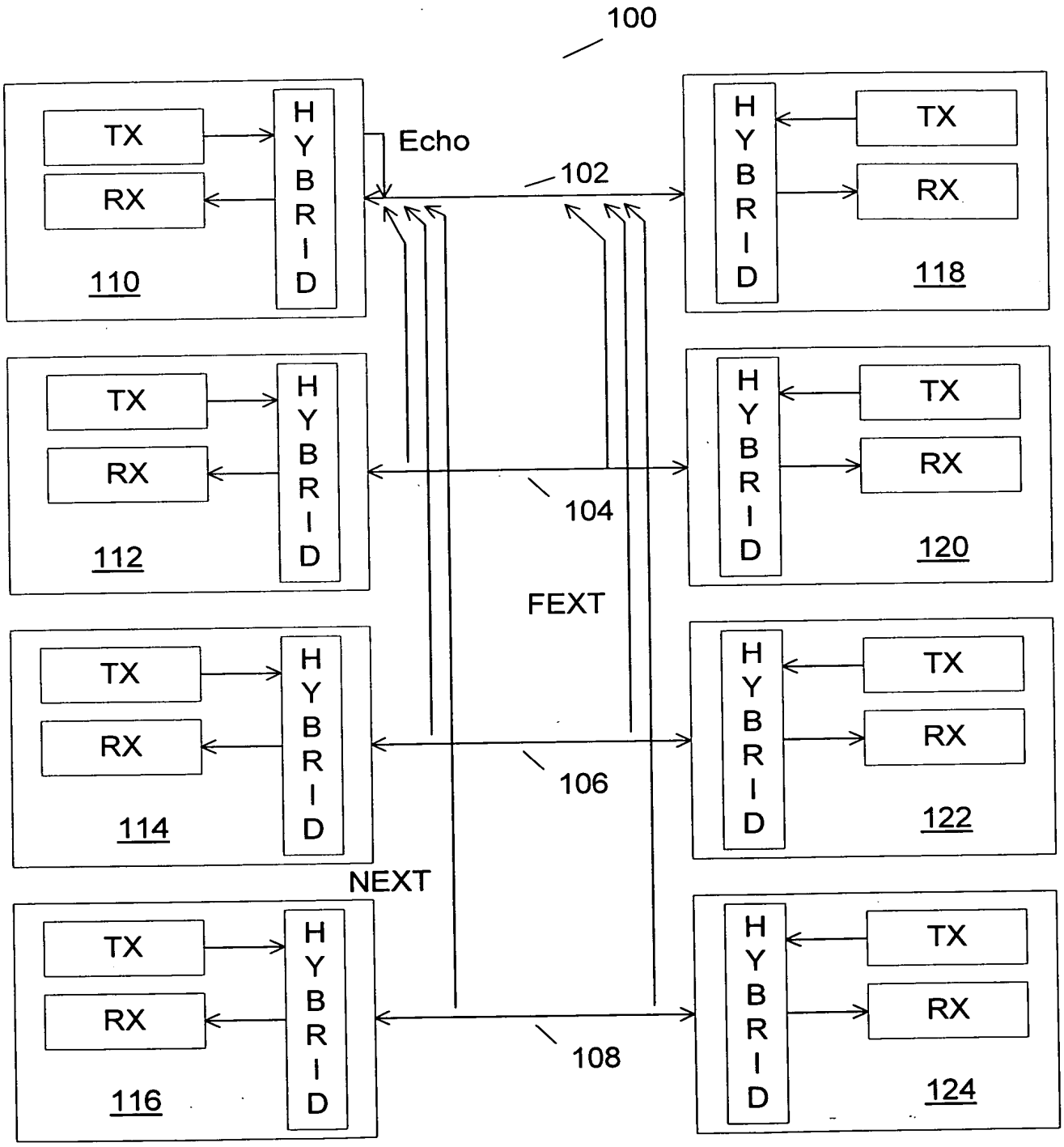

100
TX
RX
HYBRID
110
Echo
102
TX
RX
HYBRID
118
TX
RX
HYBRID
112
104
TX
RX
HYBRID
120
FEXT
TX
RX
HYBRID
114
106
TX
RX
HYBRID
122
NEXT
TX
RX
HYBRID
116
108
TX
RX
HYBRID
124

*FIG. 1a*

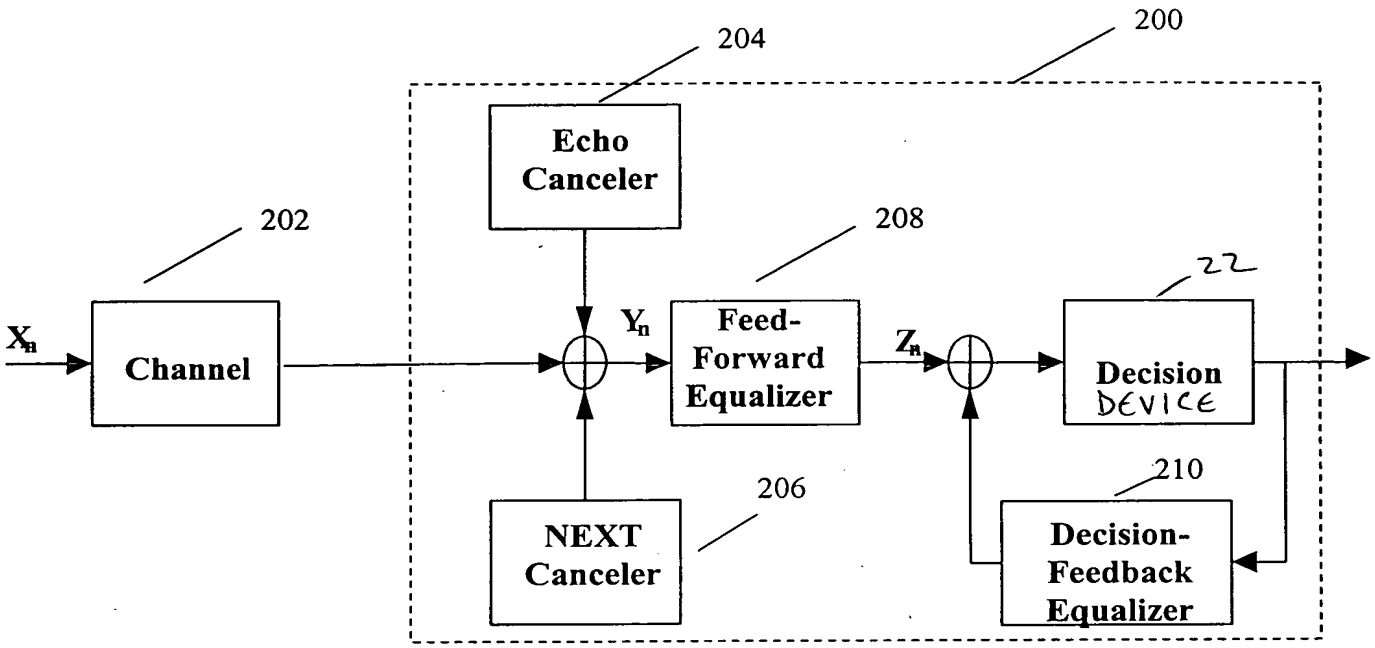



**Figure 2** – A Gigabit Ethernet Receiver

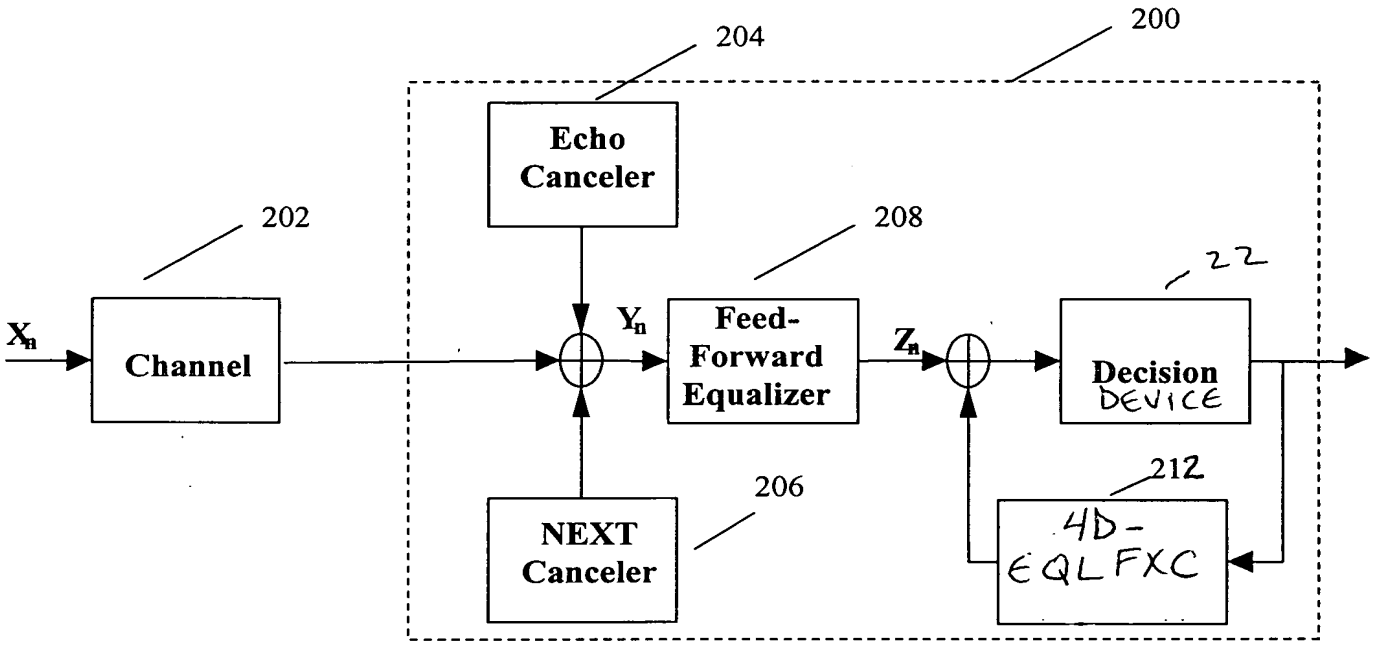

200
204
Echo Canceler
202
208
22
$X_n$
Channel
$Y_n$
Feed-Forward Equalizer
$Z_n$
Decision DEVICE
212
206
NEXT Canceler
4D-EQLFXC

Figure 2a

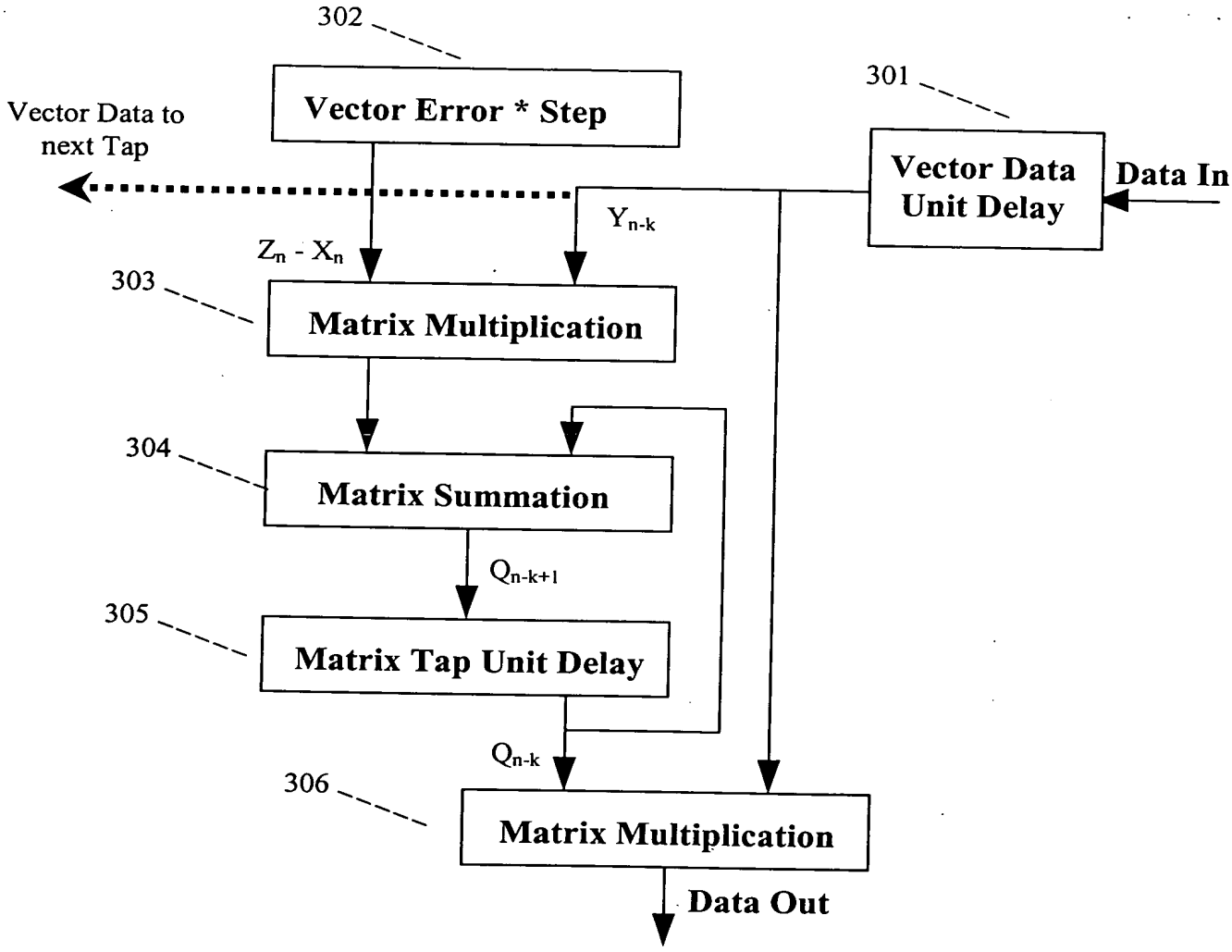



**Figure 3** – A single tap of 4D-EQLFXC

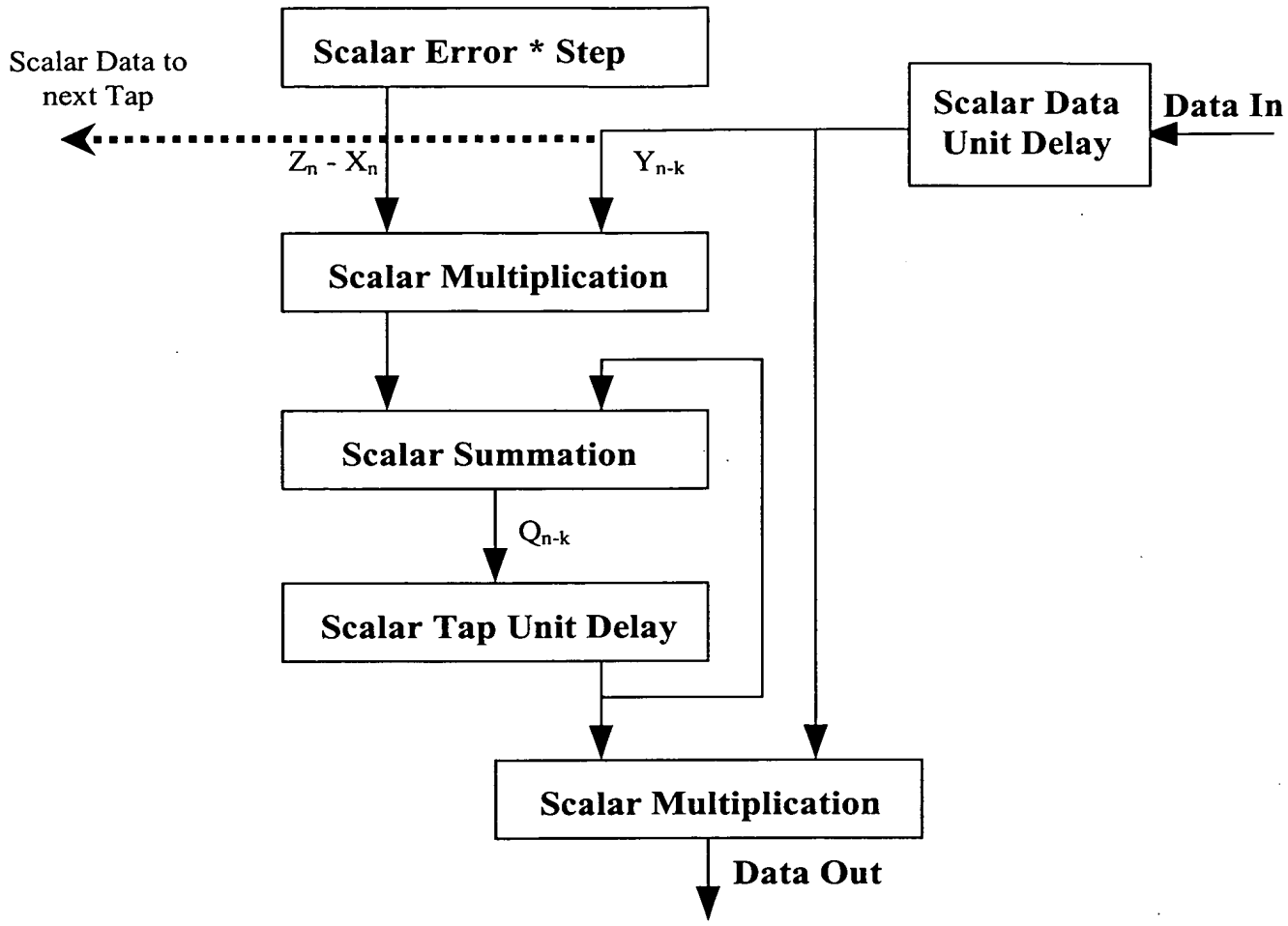



**Figure 4** – A single tap of 1D-EQL

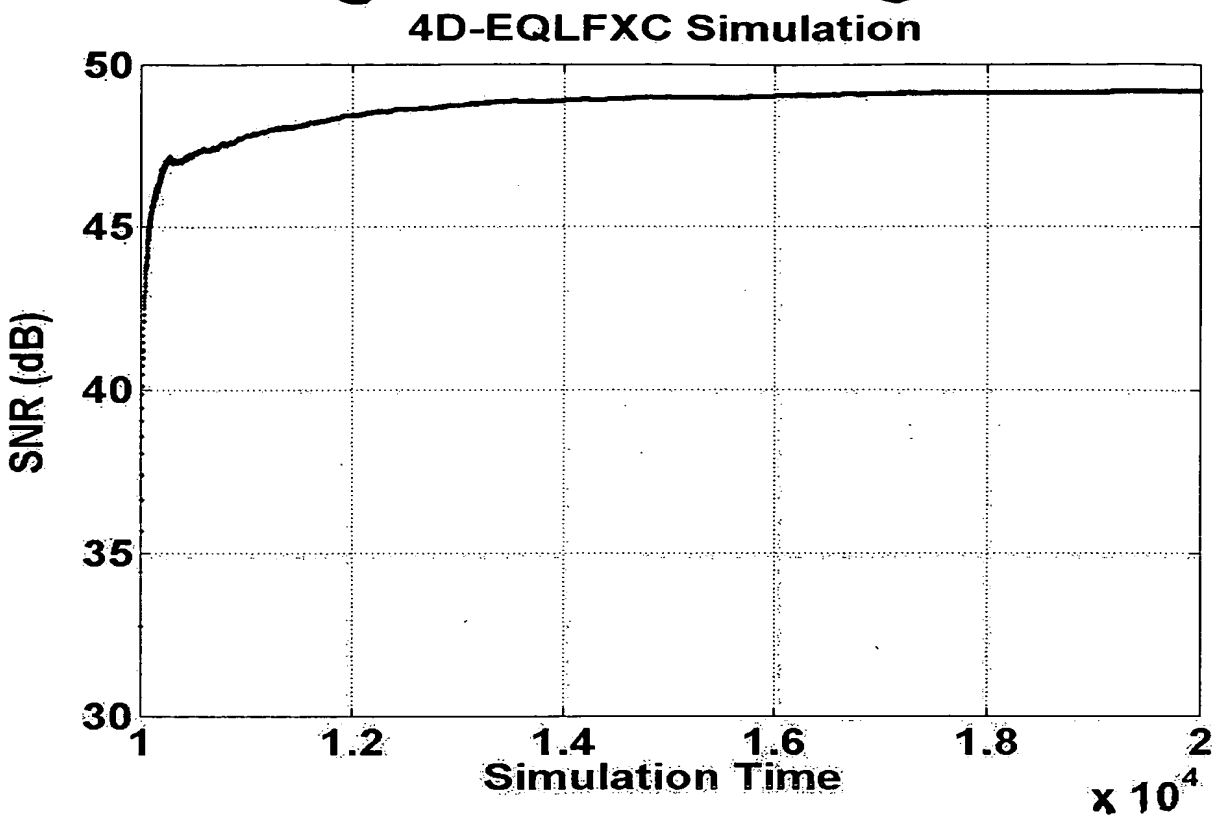



Fig. 5a

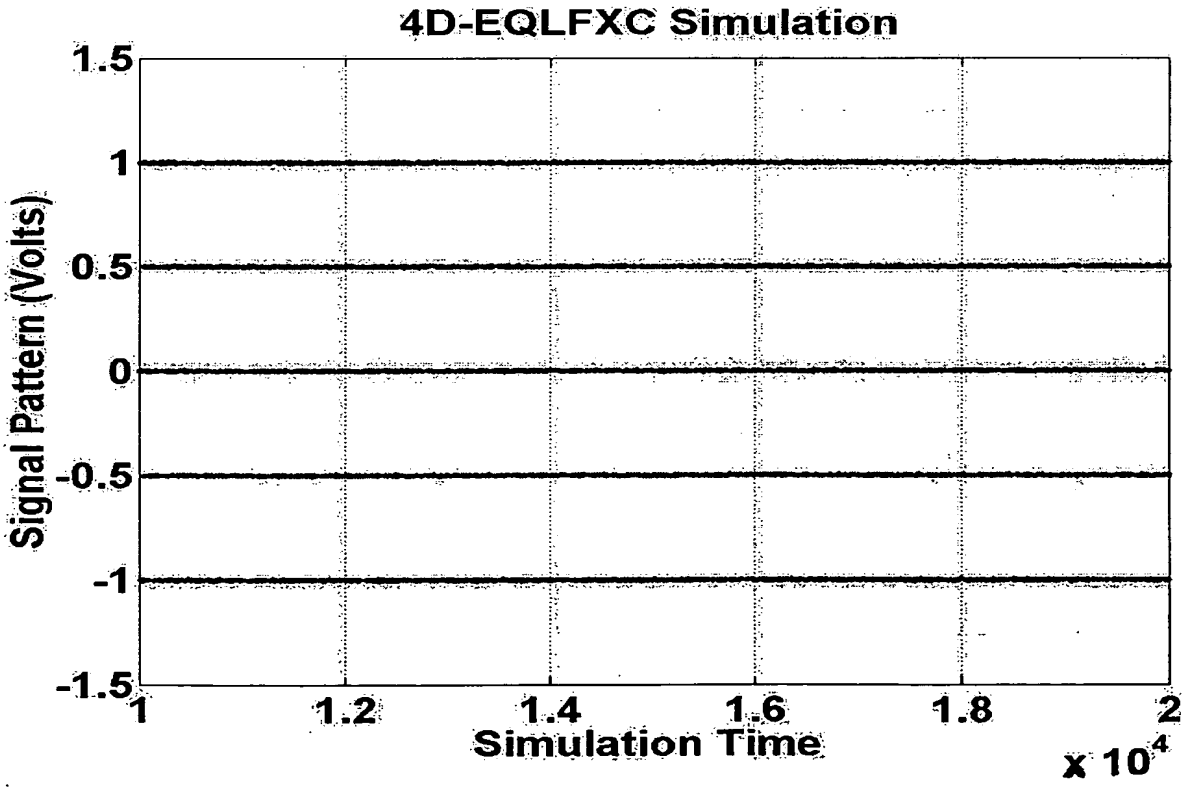



Fig. 5b

4D-EQLFXC simulation
(N=20, $\mu$= 0.01)

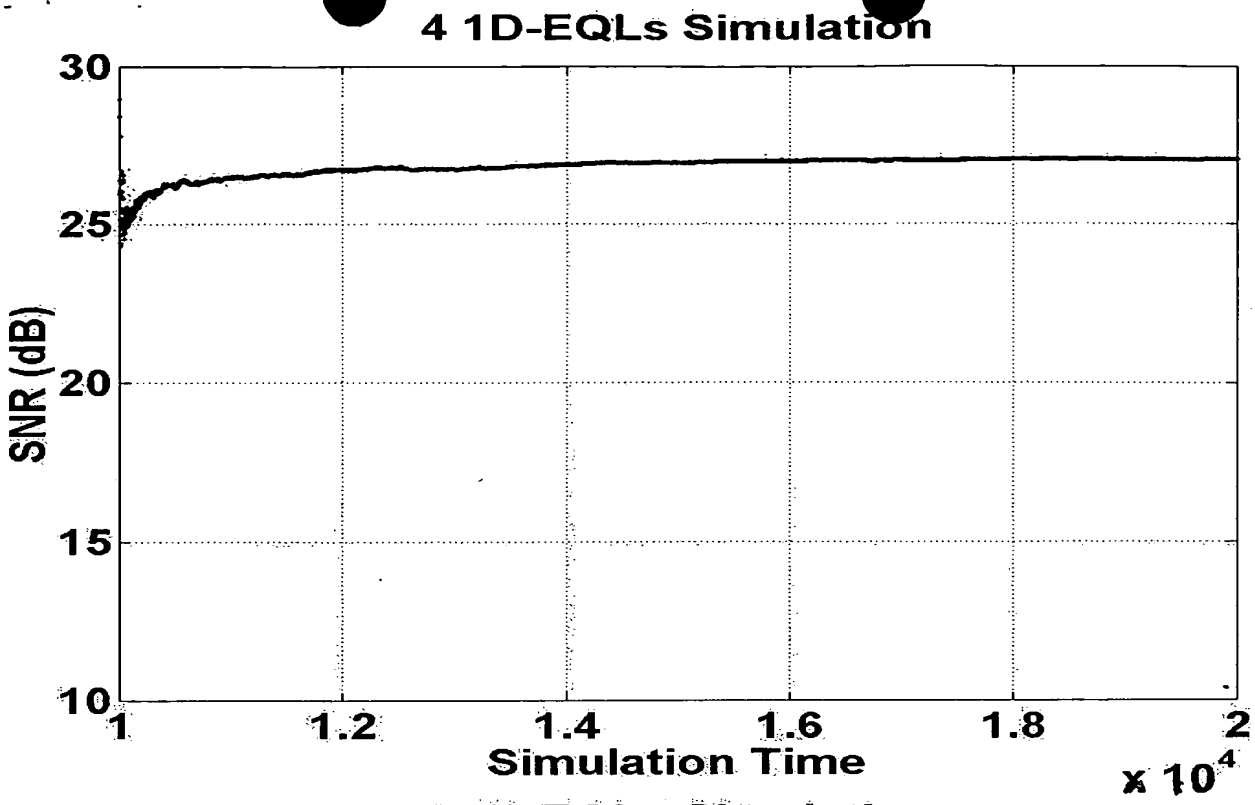



FIG. 6a
PRIOR ART

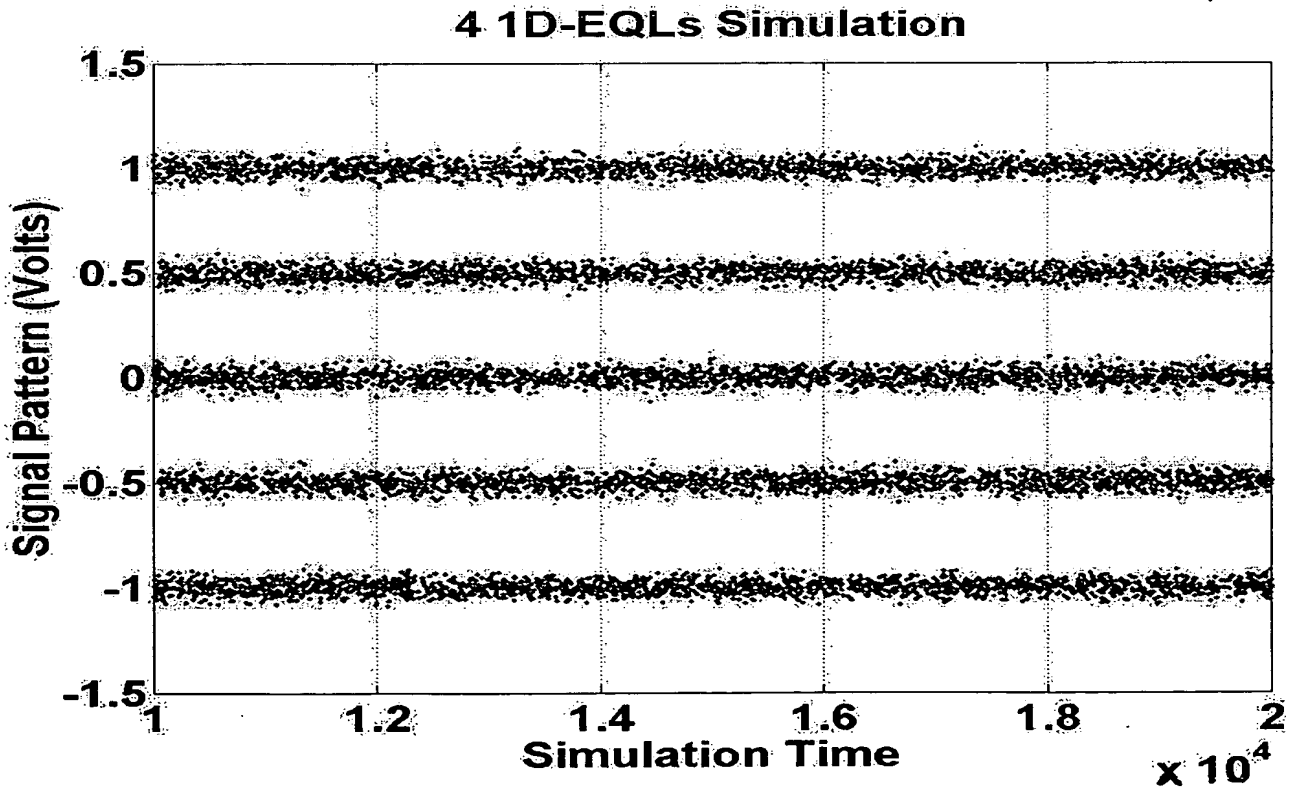



FIG. 6b
PRIOR ART

4 1D-EQLs simulation (N = 50, $\mu$ = 0.01)